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Solar energy PV cells - how and where to install 75

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Save money and make electricity!

Solar power is plentiful, essentially free in use, and eco friendly, and once installation is complete, there is very little maintenance. Solar energy is called **insolation**.

Solar power is used for the most part to **heat water and air** in homes and small office buildings, but its potential goes beyond with increased technologies in **photovoltaic cells**, or **solar PV**.

Solar contractors can calculate the best system for the home. They will provide the technical knowledge and installation schedule, providing a painless experience.

For instance, **roof selection** is critical in the UK and US and any Temperate Zone building due to the sun's **orientation**.

Also the **weight** of the system has to be calculated to make sure the roof is strong enough.

There are various methods for fitting solar PV panels. They can be:

- **bolt-on** - on top of the existing roof
- **semi-embedded**
- **solar shingles** - blend in better than normal panels
- **sunslates** - or **solar roof tiles** - completely replace the existing tiles, seamlessly integrated with any other roofing system.

For a typical domestic system, costs are around £5,000- £8,000 per kWp installed, with most domestic systems between 1.5 and 3 kWp.

Solar tiles cost more than conventional panels, and panels that are integrated into a roof are more expensive than those that sit on top. Solar shingles are a good compromise and can be larger than normal panels.

The average household in the UK uses about 4,500 kWh per year. This would need 30 sq. metres of panels.

Before fitting expensive PV panels, do all the other **energy reducing** and retaining things first, such as fitting low energy lightbulbs and improving insulation.

When building new Ecotist eco houses, we have done solar fittings with bolt-on panels, as a roof will be installed as a complete water-proofed project by a roofer, at a standard price; any complications of 'holes' in the tiles to fit solar panels increases the risk of leakage, damage, infestation, etc. This might seem a bit odd but is practical.

Newer systems using **printed PV cells** are not yet onstream, and will be in short supply at first. This could **revolutionise** solar use, as even though they make less electricity per unit area, they are very cheap to make.

Normal silicon cells are made with a furnace, and so they have a **high embedded or embodied energy**.

See my other Hubpages for more aspects of Solar PV and also Solar Thermal panels that heat water. I will also be putting up more Hubpages on sustainable building and similar topics.

- [Building DIY advice and techniques](#) - all text from book
Vast amount of information for professional and amateur builders. Includes article about solar thermal for energy saving.
- [BBC Solar news story](#)



- [Building and DIY tips and techniques with a green approach.](#)
All aspects of building for the professional and DIY enthusiast. Useful for all interested in sustainable, modern and traditional building. Save energy and save money.
- [Cornwall Sustainable Building Trust](#)
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Solar panels are not very noticable in place